

AMENDMENTS TO THE CLAIMS

1. (currently amended) A line transition ~~including~~ comprising:
a dielectric substrate;

a ~~solid~~ waveguide, the waveguide propagating electromagnetic waves within
a three-dimensional space; and

a conductive pattern formed on the dielectric substrate, the conductive
pattern including a coupled-line pattern segment electromagnetically coupled with the
electromagnetic waves propagating through the waveguide and a transmission-line
pattern segment extending from the coupled-line pattern segment ~~a planar circuit to
realize planar circuit to waveguide transition, the solid waveguide propagating
electromagnetic waves within a three-dimensional space, the planar circuit being
constructed by forming a predetermined conductive pattern on a dielectric substrate,
wherein~~

the dielectric substrate is disposed parallel to ~~the~~ an E plane of the ~~solid~~
waveguide ~~in almost the middle of the solid waveguide, and~~

~~the conductive pattern on the dielectric substrate includes a coupled-line
pattern segment electromagnetically coupled with a signal propagating through the
solid waveguide and a transmission-line pattern segment extending from the coupled-
line pattern segment, and~~

an ~~the~~ edge of the dielectric substrate has a notch in the vicinity of the
coupled-line pattern segment, the notch having a side that is parallel to a ~~the~~ signal
propagation direction of the coupled-line pattern segment, the length of the side being
equal to or longer than ~~the dimension in the~~ a width ~~direction~~ of the E plane of the ~~solid~~
waveguide.

2. (original) A high frequency module including the line transition according to Claim 1.

3. (currently amended) A method for manufacturing a line transition including a solid waveguide and a planar circuit to realize planar-circuit to waveguide transition, the solid waveguide propagating electromagnetic waves within a three-dimensional space, the planar circuit being constructed by forming a predetermined conductive pattern on a dielectric substrate, the dielectric substrate being disposed parallel to ~~an~~ the E plane of the solid waveguide in substantially a almost the middle of the solid waveguide, the conductive pattern on the dielectric substrate including a coupled-line pattern segment electromagnetically coupled with the electromagnetic waves ~~a signal~~ propagating through the solid waveguide and a transmission-line pattern segment extending from the coupled-line pattern segment, ~~an~~ the edge of the dielectric substrate having a notch in ~~a~~ the vicinity of the coupled-line pattern segment, the notch having a side that is parallel to ~~a~~ the signal propagation direction of the coupled-line pattern segment, ~~a~~ the length of the side being equal to or longer than ~~a~~ the dimension in the width direction of the E plane of the solid waveguide, the method comprising the steps of:

forming a plurality of the conductive patterns in a ceramic green sheet;

forming ~~and~~ through holes in ~~[[a]]~~ the ceramic green sheet ~~serving as a motherboard~~ such that each through hole is arranged in ~~a~~ the vicinity of ~~a~~ the corresponding ~~line-coupled~~ coupled-line pattern segment of the conductive pattern at a predetermined spacing;

firing the ceramic green sheet to form a motherboard; and

cutting the ~~fixed~~ motherboard along lines passing through the through holes such that each through hole in the ~~fixed~~ motherboard serves as the notch.

4. (new) The line transition according to claim 1, wherein the waveguide is a solid waveguide.

5. (new) The line transition according to claim 1, wherein the conductive pattern is a planar circuit which accomplishes planar-circuit to waveguide transition.

6. (new) The line transition according to claim 1, wherein the dielectric substrate is disposed in substantially a middle of the waveguide.